REMARKS

Claims 22, 29-39, and 42-56, as amended, and new claims 57-61 appear in this application for the Examiner's review and consideration.

Claim 22 has been amended to specify that the food product is a protein-containing food product, such as milk-based liquid food, that hot water is used as the sanitizer and to further specify the conditions for sanitizing. Amended claim 22 also mentions that sanitization occurs according to a time controlled cleansing program (rather than at the operators' discretion) and that the dispensing of the food product is interrupted during sanitization. These features previously appeared in claims 23-28 and 40-41, which are now cancelled, and in the specification at paragraphs [0114], [0117] and [0121]. Claim 35 has been amended to be consistent with claim 22.

Regarding the new claims, claims 57 and 59 re directed to a preferred temperature of the hot water and for the dispensing of a milk-based food product, as supported by previous claim 26 and paragraph [0049]. New independent claim 58 is supported by original claims 23 and 29 and in the specification such as at paragraph [0128]. Claims 60-61 are directed to the same feature that has been added in the last two paragraphs of claim 22. In view of the above, it is clear that no new matter has been introduced so that the claim amendments and additions should be entered at this time.

Claims 23-56 were rejected due to the informalities noted on pages 2-3 of the action. In response, applicants have amended the claims or have provided the following explanation for the usage of the terms that were objected to in the office action.

In particular, the term "operatively associated" or "associated" when used to recite association between mechanical or electrical components, is used to signify that these components work together to produce the recited results. Furthermore, where appropriate, the term "operatively associated" or "associated" as it applies to fluid contact has been changed to "in fluid association" to more clearly recite that the fluid can move from the cleansing path to the product path.

The term "substantial intervention" and claims 40-41 have been deleted to overcome the rejections made against that term and those claims.

Claims 36-37 have been amended to recite that the conducting of the cleansing operation does not interrupt delivery of the product. This clarifies that the cleansing operation

does not begin until a time when a product is not dispensed and that it can take 10 to 20 minutes to complete (as recited in claim 37).

Claim 48 has been amended to recite that the process includes configuring the dispenser to dispense product servings of up to about 10 servings at one time wherein each product serving is sized for consumption by an individual. This would include, for example, dispensing 10 servings of a particular size of a beverage or food product for consumption by 10 different individuals.

It is believed that these changes and deletions overcome all formality rejections so that the section 112 rejection should be withdrawn.

Before addressing the rejections based on prior art, a brief review of the patentable features of the present invention may be helpful. Protein-containing and milk-based food dispensers are particularly sensitive to spoilage and microbial growth. Furthermore, the proteins contained in the food product tend to soil the product flow path creating sensitive solids residue zones which must be de-soiled. This occurs both for milk-based proteins as well as for soy or non-dairy proteins. It is essentially for hygienic purposes to clean these residues from product dispensers. The present invention now provides a number of ways to automatically accomplish such cleaning.

In a first embodiment, as recited in claim 22, hot water is used as the sanitizing solution and particular conditions are used for the sanitizing. As noted above, the claim also recites that sanitization occurs according to a time controlled cleansing program and that the dispensing of the food product is interrupted during sanitization. This enables the dispenser to be periodically cleaned automatically so that the undesired residues are continually removed.

In the second independent claim, claim 58, the method of the invention recites a first and second cleansing fluids to conduct cleansing operations on at least a dispensing path, with the first cleansing fluid directed along the fluid path to de-soil the fluid path and the second cleansing fluid used to sanitize a portion of the fluid path. The second cleansing fluid comprises hot water and is applied at temperature and time intervals and duration conditions effective to sanitize the fluid path portion.

Claims 23, 24, 27, 29, 30-32, 34-36, 39-40 and 48-56 were rejected as being anticipated by or unpatentable over US patent 5,855,295 to Lee. This patent discloses an automatic washing apparatus and method for washing an inner part of a drink mixing part of an

automatic beverage vending machine is disclosed. The apparatus and method enables the drink mixing part to be automatically washed depending on the pollution level in the part. Thus, a purchaser of goods from the machine can use a clean vending machine. The automatic washing apparatus has a pollution detecting part for detecting the pollution level in the drink mixing part. If it is determined that the drink mixing part has a pollution level higher than desired, a control part generates a signal to supply hot water to wash the drink mixing part.

Thus, Lee refers to a washing method for automatic vending machines. The method carried out a hot water cleaning of the drink mixing part as a result of a control of the pollution of the mixing part detected by a pollution detecting part through a transparent vessel. This is not what is claimed in the present application.

As noted, claim 22 recites that the cleansing of the dispenser is automatic and is conducted a predetermined intervals. In Lee, the control for triggering cleaning is only a visual means based on a modification of the transparency of a surface. This does not provide sanitization and instead provides only removal of visually discernable pollution or deposits. Contrary to Lee, the present invention in claim 22 provides hot water at conditions that can provide sanitization for set periods of time. These periods of times are programmed so that there is no possible missing periods that could potentially create hygiene issues. Furthermore, there is no reliance upon the visual inspection by an operator sensor or otherwise to determine when the cleaning operation needs to be conducted, and it instead is performed automatically based on time intervals. This assures that the dispenser is periodically cleaned so that deposits cannot build and hygiene problems cannot occur.

In the Lee patent, a problem can result in that the surface may appear clean because the pollution detector does not detect a sufficient differential of transparency whether the dispenser does not dispense. When a protein based food product is dispensed, even a small pollution or deposit which is not detected can become a source of contamination that leads to microbial growth which can create a hazardous hygiene issue. In the invention of claim 22, this possibility cannot happen since the sanitization is triggered at intervals by programming and at conditions (temperature, velocity, time, intervals) which are set to ensure the required sanitary level. Thus, independent claim 22 is not anticipated by Lee. In addition, there is no disclosure, teaching, or suggestion in Lee to conduct periodic cleaning of the device automatically based on

preselected time intervals, so that claim 22 is patentable over Lee, and this rejection should be withdrawn.

Considering independent claim 59, Lee only uses one cleaning fluid. This solution does not remove protein residues that soils or builds up in the flow path of the device. In contrast, the invention of claim 59 uses first and second fluids that provide respectively de-soiling and sanitization. Lee does not consider the use of two fluids for achieving two different purposes, namely de-soiling of the food solids and sanitization. Thus, independent claim 59 and dependent claims 60-61 are believed to be patentable over Lee.

Claims 23, 24, 27, 29-36, 38-40, and 42-56 were rejected as being anticipated by or as being obvious over US patent 5,762,096 to Mirabile. Mirabile discloses a portable cleaning and flushing device for beverage conduits such as draft beer distribution coils includes a manifold, couplings and a number of valves which are controllable so as to sequence the supply of detergent from a reservoir, mixing with water from an external water source and flushing and rinsing of the distribution conduits. The device is wheeled about like a handcart and is coupleable to one or more beverage distribution lines by lead lines in place of normally attached kegs. The device is coupled to a water supply and to an electric power outlet. Detergent and pressurized water are mixed and flushed through the beverage conduit to an open spigot at the dispensing end. A programmable computerized controller sequences the operation of valves for detergent addition to a manifold, venting of the manifold, water supply for obtaining a mixing solution, application of the mixing solution to the conduit, rinsing and finally draining. The controller accepts user input for triggering operation and preferably also for defining customized parameters for particular beverage delivery systems and user choices.

Considering Mirabile, important differences of claim 22 include that:

- the lead beverage tube of the dispenser is disconnected during cleaning/sanitizing which put the dispenser (or at least part of it) out of order during a greater length of time, i.e., the connecting/disconnecting time and during cleaning time;

- sanitization is carried out by a mixture of detergent and pressurized water, and this requires water rinsing to remove traces of detergent. It also suggests that sanitization can be carried out only during non-business hours or would at least immobilize the dispenser during a longer time.

In the present invention, the cleansing fluid path is "operatively associated with the food delivery mechanism"; in other words, the cleansing fluid is coupled to the food delivery mechanism at all time although triggered only at intervals during the programmed cleansing periods. This reduces the time the delivery mechanism is interrupted only to the cleansing time. The sanitization is also carried out at intervals with hot water only. This is of considerable importance because there is no need for cleaning followed by an additional step of removing the traces of the cleaning solution. The sanitization can be operated more frequently during business hours and interrupts the delivery mechanism just very shortly (just for the period when the hot water circulates). These differences patentably distinguish differentiate claim 22 from Mirabile.

Considering independent claim 58, Mirabile fails to disclose the use of first and second fluids; where one fluid is used to de-soil and the other comprising hot water to sanitize the fluid path. Mirabile only considers a detergent and pressurized water which are mixed and flushed in the conduit for carrying the beverage. The use of rinsing water is not heated to sanitize the path.

The present invention is more effective in carrying out de-soiling with a detergent and sanitizing with hot water separately. In particular, de-soiling can take place less frequently and also during non-business hours whereas sanitizing can take place more frequently and during business hours. Therefore, separation of these operations, which are different in their function, enables to take advantage of the different needs and minimizes the interruption periods of the machine. Therefore, independent claim 58 is also novel and non-obvious over Mirabile.

Claims 25, 26, 28, 37 and 41 were rejected over the combination of Lee and Mirabile. Since neither Lee nor Mirabile alone disclose or teach the present invention, their combination likewise does not disclose or teach the present claims. The office action further suggests that certain claims recite result effective variables. Applicants traverse this statement since the Lee and Mirabile references do not teach that sanitation is necessary. For that reason alone, there would be no motivation for a skilled artisan to conduct an additional step of heating water to a sanitizing temperature or to use particular flow rates intended to remove solids so that the path can be sanitized. Lee and Mirabile, alone or in combination, do not use or require or require such steps so that it is not obvious to modify their teachings to include the presently claims steps or conditions. Thus, all claims are patentable over the combination of Lee and Mirabile.

Finally, in response to the Examiner's comment on the information disclosure statement, copies of European patent application 0245641 (with English abstract) and British patent application 2367105 are submitted herewith for the Examiner's review and consideration.. Please review these references and make them of record in this application. If any fees are required to do this, please charge them to applicant's deposit account as noted on the first page of this amendment.

It is believed that the entire application is in condition for allowance, early notice of which would be appreciated. Should the Examiner not agree, then a personal or telephonic interview is respectfully requested in order to expedite the eventual allowance of this application.

Respectfully submitted,

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Allan A. Fanucci (Reg. No. 30,256)

WINSTON & STRAWN LLP
CUSTOMER NO. 28765
(212) 294-3311